

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ALEX KHARAZI

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Appeal No. 2001-0772  
Application No. 09/052,429

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ON BRIEF

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Before HANLON, OWENS, and NAGUMO, Administrative Patent Judges.

HANLON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-7, all the claims pending in the application. The claims on appeal relate to a process for preparing a semiconducting shield composition. Claim 1 is representative and reads as follows:

1. A process for the preparation of a semiconducting shield composition comprising:
  - (i) introducing an elastomer into a melt/mixer having a melting zone and a mixing zone;
  - (ii) introducing particulate conductive carbon black into the melt/mixer in an amount of about 10 to about 25 percent by weight based on the weight of the resin;
  - (iii) melting the elastomer in the melting zone;

- (iv) mixing the carbon black and the molten elastomer in the mixing zone;
- (v) optionally, pelletizing the mixture of carbon black and elastomer;
- (vi) recycling the mixture of carbon black and elastomer from step (iv) or the pellets from step (v) to a melt/mixer;
- (vii) introducing additional particulate semiconductive carbon black into the melt/mixer in an amount sufficient to provide a total amount of carbon black in the range of about 25 to about 50 percent by weight based on the weight of the resin;
- (viii) melting and mixing the mixture from step (vii); and
- (ix) pelletizing or extruding the mixture from step (viii).

The references relied upon by the examiner are:

|                        |           |               |
|------------------------|-----------|---------------|
| Alia                   | 4,197,381 | Apr. 8, 1980  |
| Kotani et al. (Kotani) | 4,598,127 | Jul. 1, 1986  |
| Unger                  | 5,369,149 | Nov. 29, 1994 |

"Rubber Technology, 3rd Edition," Morton, M. Ed., Van Nostrand Reinhold 1987, pp. 28-29 (Rubber Technology).

The following rejections are at issue in this appeal:<sup>1</sup>

- (1) Claims 1-5 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Unger, Rubber Technology and Kotani.

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<sup>1</sup>The rejection of claim 6 under 35 U.S.C. § 112, second and fourth paragraphs, has been withdrawn by the examiner. See Answer, p. 2. Furthermore, an objection to the Abstract is outstanding. However, as pointed out by the examiner, the objection to the Abstract is not appealable, but rather is a petitionable matter under 37 CFR § 1.181. See MPEP §§ 1002 and 1201 (8th ed., Aug. 2001); In re Mindick, 371 F.2d 892, 894, 152 USPQ 566, 568 (CCPA 1967).

(2) Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Unger, Rubber Technology, Kotani and Alia.

Discussion

(1) Rejection of claims 1-5

Unger discloses a method for continuously preparing thermo-crosslinkable and/or thermoplastic elastomer blends by mixing the elastomer with plasticizer oil and other additives, including carbon black. The method comprises the following steps (col. 2, lines 25-43):

- (a) continuously premixing the crushed elastomer in an annular zone mixer with at least part of said plasticizer oil, and optionally with at least part of said other additives, to form a preblend in which said elastomer is decomposed and said additives are embedded in the polymer matrix;  
and thereafter
- (b) completing the mixing of said premix, and optionally of the remainder of said additives, in a mixing unit working batchwise or continuously.

In the method according to the invention, said annular zone mixer of said first step (a) has the function of decomposing the elastomer to such an extent that a mixing with the adjuvants becomes possible. Thus a large part of the total mixing process is effected in said annular zone mixer, whereas the function of said mixing unit of said second step (b), for example an internal or Banbury type mixer or mixing extruder, is reduced to a simple aftermixing.

In Example 4, carbon black is added during the second step of the method (col. 6, lines 57-64):

The rubber, the plasticizer oil and the other adjuvants were continuously premixed in an annular zone mixer rotating at 2000 r.p.m. (revolutions per minute). The resulting blend and the carbon black were then introduced into a kneader which was working batchwise, for example an internal mixer, or into a mixing extruder which was working continuously. There, the elastomer blend was completed.

The examiner recognizes that Unger does not disclose a semiconducting shield composition, does not specify the additive amounts used in the first and second steps, and does not suggest adding carbon black to the elastomer mixture in both steps. See Answer, pp. 2-3. Thus, the examiner relies on Kotani for its teaching of a semiconducting shield composition and Rubber Technology for its teaching of mixing a particular amount of carbon black into a material in two stages. See Answer, p. 2.

The examiner further notes that Unger does not use a mixing extruder comprising a melting zone and a mixing zone to perform the disclosed method. Nevertheless, the examiner maintains that (Answer, p. 2):

[M]ixing extruders comprising melting and mixing zones are well known in the art. At the time of invention one of ordinary skill in the art would have found it obvious to provide an extruder comprising melting and mixing zones, as commonly practiced in the art, in the process of Unger, for the benefit of forming a uniform mixture by melt mixing.

Appellant argues there would have been no reason or motivation to use a melter in the method of Unger since nothing is being melted in the disclosed method. Brief, p. 4. Indeed, Unger discloses that the elastomer is in the form of a powder or a granulate when it is removed from the annular zone mixer. Therefore, it does not need to be rendered flowable or kneadable in the mixing unit by the application of heat. See col. 5, lines 41-46.

It is well-settled that in order to support a prima facie case of obviousness within the meaning of 35 U.S.C. § 103, there must be some reason, suggestion or motivation found in the prior art whereby a person of ordinary skill in the art would have made the modification required.

Manifestly, that knowledge cannot come from the applicant's invention itself. Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). On this record, the examiner has failed to offer any evidence or facts found in the prior art which would have led one of ordinary skill in the art to modify the method of Unger with a melter as proposed.

The examiner appears to acknowledge that the teachings of Rubber Technology alone suggest a process for melting and mixing natural rubber and carbon black in an internal mixer. See Answer, p. 7. Specifically, Rubber Technology is directed to a process for preparing a natural rubber composition at a temperature between 110°C and 125°C using a Banbury internal mixer. The process comprises the steps of adding natural rubber to the mixer (see mixing step 2), introducing one-half the carbon black, mixing the carbon black and the natural rubber for 1.5 minutes (see mixing step 5), adding the remainder of the carbon black to the mixture of carbon black and natural rubber from mixing step 5, and mixing that mixture of carbon black and natural rubber for 1.5 minutes (see mixing step 6). According to the natural rubber recipe disclosed, the natural rubber to carbon black ratio used is 2:1.

Appellant recognizes that the process disclosed in Rubber Technology is a multipass process. However, appellant argues that natural rubber is not melted in the disclosed process. See Reply Brief, p. 2. Assuming arguendo, that rubber is melted in the process of Rubber Technology,

the record fails to establish that natural rubber is suitable for use as a semiconducting shield composition.

For the reasons set forth above, the examiner has failed to satisfy his initial burden of presenting a prima facie case of unpatentability. In re Alton, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996). Therefore, we are constrained to reverse the rejection of claim 1. Since claims 2-5 are dependent on claim 1, the rejection of claims 2-5 is also reversed.

(2) Rejection of claims 6 and 7

In the process of claim 1, pelletizing the mixture of carbon black and molten elastomer after the first and second passes is optional. However, claims 6 and 7 require the mixture to be pelletized prior to the recycling step. The examiner relies on Alia for its teaching of pelletizing between mixing/blending stages. Answer, p. 3. Alia fails to cure the deficiencies of Rubber Technology, Unger and Kotani noted above. Therefore, we are constrained to reverse the rejection of claims 6 and 7 as well.

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Conclusion

The rejection of claims 1-5 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Unger, Rubber Technology and Kotani is reversed. The rejection of claims 6 and 7 as unpatentable over the combined teachings of Unger, Rubber Technology, Kotani and Alia is also reversed.

REVERSED

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|-----------------------------|---|-----------------|
| ADRIENE LEPIANE HANLON      | ) |                 |
| Administrative Patent Judge | ) |                 |
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|                             | ) |                 |
|                             | ) | BOARD OF PATENT |
| TERRY J. OWENS              | ) | APPEALS         |
| Administrative Patent Judge | ) | AND             |
|                             | ) | INTERFERENCES   |
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|                             | ) |                 |
| MARK NAGUMO                 | ) |                 |
| Administrative Patent Judge | ) |                 |

ALH/lp

Appeal No. 2001-0772  
Application No. 09/052,429

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***Letty***

JUDGE HANLON

APPEAL NO. 2001-0772

APPLICATION NO. 09/052,429

APJ HANLON

APJ OWENS

APJ NAGUMO

DECISION: **REVERSED**

**PREPARED:** Sep 29, 2003

**OB/HD**

**PALM**

**ACTS 2**

**DISK (FOIA)**

**REPORT**

**BOOK**